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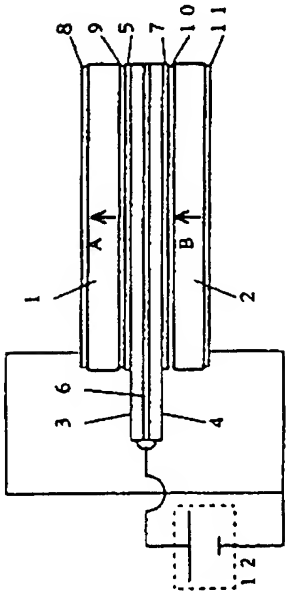
TITLE : BENDING TYPE DISPLACEMENT ELEMENT



ABSTRACT : PURPOSE: To eliminate the change of a displacement position subsequent to temperature change regardless of voltage, and improve stability by a method wherein the change of displacement amount in the case of constant voltage is eliminated by using bimetal wherein bending displacement is generated on shim plates only by temperature change.

CONSTITUTION: In a bending type displacement element using a piezoelectric material, piezoelectric plates 1, 2 are bonded to the surface of shim plates 3, 4 via conducting layers 8-11. Said shim plates are constituted by bonding metal plates having different thermal expansion coefficients. That is, the shim plates 3, 4 are constituted by using bimetal wherein plates having different thermal expansion coefficients are combined, and the piezoelectric plates 1, 2 are bonded to the surfaces of the shim plate 3, 4 in the direction opposite to the direction of displacement. As a result, the bimetal acts only as the shim plates 3, 4 in the case of constant temperature, and corrects the change of displacement position by the effect of bending action, when the temperature changes. Hence the piezoelectric bending type displacement element using bimetal for the shim plates 3, 4 can maintain stable displacement position even when temperature change exists at the time of applying a constant voltage.